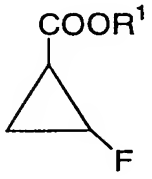
Abstract

Provided is an industrially applicable process for producing 1,2-cis-2-fluorocyclopropane-1-carboxylic ester.

A process for producing a compound represented by formula (3):

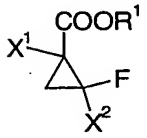
[F2]



(3)

[wherein R^1 represents, for example, a C1-C8 alkyl group], which process includes reacting a compound represented by formula (1):

[F1]



(1)

[wherein X^1 represents a hydrogen atom, a chlorine atom, a bromine atom, or an iodine atom; X^2 represents a hydrogen atom, a chlorine atom, a bromine atom, or an iodine atom; X^1 and X^2 are not simultaneously hydrogen atoms; and R^1 has the same meaning as defined in formula (3)] with a reducing agent represented by formula (2):

$M^1BH_mR^2_n$ (2-1) or $M^2(BH_mR^2_n)_2$ (2-2)

[wherein M^1 represents an alkali metal atom; M^2 represents an alkaline earth metal atom or a zinc atom; R^2 represents, for

example, a hydrogen atom; m represents an integer from 1 to 4; n represents an integer from 0 to 3; and the sum of m and n is 4] in the presence of an aprotic polar solvent, and a Lewis acid such as a halide of an atom selected from among, for example, boron, magnesium, and aluminum.